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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,417	10/17/2005	John Patrick Fitzgerald	041129-0110	1526
22428 7590 09/10/2007 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER JOHNSTON, PHILLIP A	
			ART UNIT 2881	PAPER NUMBER
			MAIL DATE 09/10/2007	DELIVERY MODE .PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,417

Applicant(s)

FITZGERALD ET AL.

Examiner

Phillip A. Johnston

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10-17-2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Detailed Action

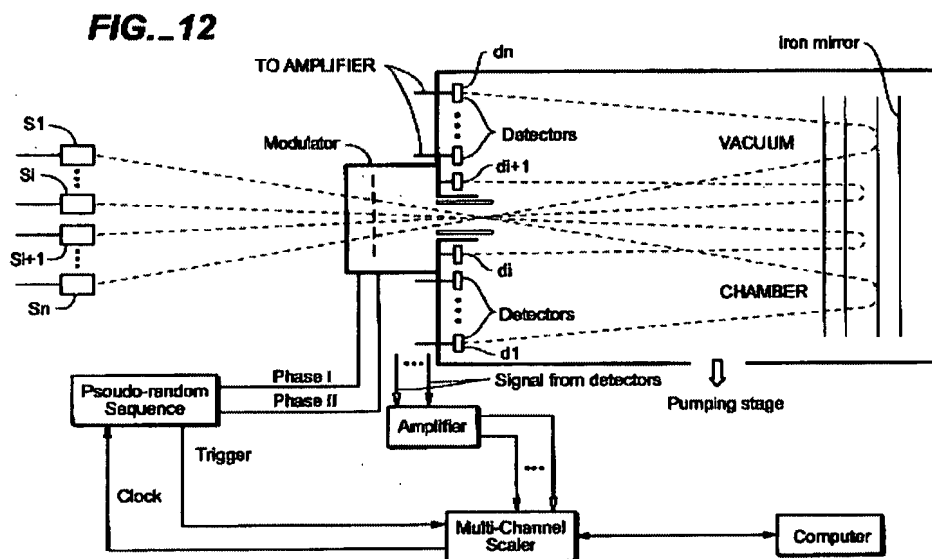
Claims Rejection - 35 U.S. C. 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

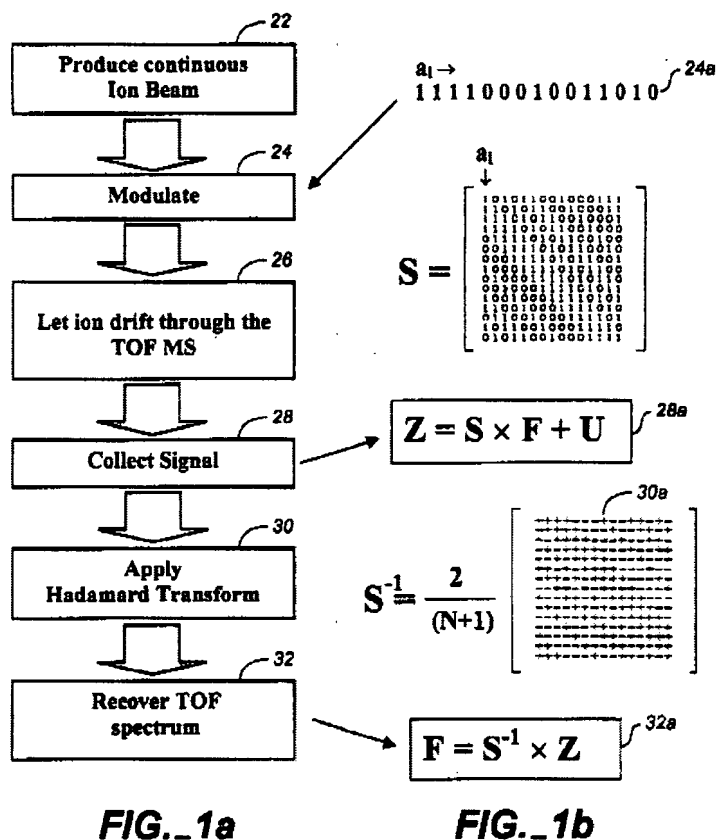
2. Claims 1,3,4,6,8, and 9 are rejected under 35 U.S.C. 102 (b) as being anticipated by Brock, U.S. Patent No. 6,300,626.

3. Regarding claim 1, Brock discloses a detection system including a detection cell having an entry gate, the system including drive means for controlling switching of the gate, wherein the drive means is arranged to control switching of the gate in a pseudorandom binary sequence. See Col. line 21-46; Col. 7, line 26-53; and Figure 12 below.



4. Regarding claim 6, Brock teaches all the structural limitations therein as pointed out above regarding claim 1.

5. Regarding claims 3,4,8, and 9, Brock teaches analyzing the output with correlation matrix S (note Figure 1 b below), as well as deconvoluting the output. See Col. 4, line 40-57 Col. 7, line 26-53.



Claims Rejection – 35 U.S.C. 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2,5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,300,626 to Brock, in view of Zare, U.S. Patent No. 7,067,803.

8. Brock teaches all the required limitations of claim 5, as pointed out with respect to claims 1 above, but fails to disclose the use of an IMS detection system.

9. Zare teaches ion gating in ion mobility spectrometry (IMS). Col. 3, line 4-12.

10. Zare modifies Brock to provide an ion gate that is controlled with a pseudorandom binary sequence of 1's and 0's generated by a system of shift registers, split into two inverse phases, and used to drive a push-pull amplifier to form a train of square pulses.

11. Therefore it would have been obvious to one of ordinary skill in the art that Brock would use the ion gating system of Zare, to provide a decoding matrix corresponding to an encoding sequence that is used to decode a signal obtained by detecting the charged particle beam encoded with the corresponding encoding sequence.

12. Regarding claims 2 and 7 Brock teaches all the required limitations of the claims therein, as pointed out regarding claim 1 above, but fails to disclose the use of bit flipping.

13. However it is well known in the art to use bit flipping in pseudorandom generators to correct changes from a "1" state to a "0" state.

14. Therefore it would have been obvious for Brock to use bit flipping to correct for errors generated by noise in encoding.


Conclusion

15. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Robert Kim can be reached at (571)272-2293. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

August 30, 2007


ROBERT KIM
SENIOR PATENT EXAMINER
ART UNIT 2881